ATOMIC ENERGY newsletter®

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
ROBERT M. SHERMAN, EDITOR. PUBLISHED BI-WEEKLY BY ATOMIC ENERGY NEWS CO., 1000 SIXTH AVENUE, NEW YORK 18, N. Y.

November 27th, 1956
Vol. 16...No. 8

Dear Sir:

Martin International, wholly-owned subsidiary company of the Martin Company, Baltimore, has been formed to explore and develop world markets for nuclear powered electrical generating systems. President of the new subsidiary will be George B. Shaw, presently a Martin vice-president for procurement. (Martin has been working on nuclear reactor systems for three years and now offers a pressurized water reactor for commercial purposes.) (Other BUSINESS NEWS, p. 2 this LETTER.)

Architect-engineer for the design of the USAEC's new experimental breeder reactor (II) is to be H. K. Ferguson Co., Cleveland, under contract recently negotiated between Ferguson and Argonne National Laboratory, which is supervising the project. The reactor, which will be sodium-cooled, will be erected at the national reactor testing station, Idaho Falls, Idaho, and will be designed to produce 62,500-KW of heat energy and 20,000 KW of electrical energy. (Other CONTRACTS AWARDED, BIDS ASKED, p. 3 this LETTER.)

Reactor monitoring services complete in one "package" are now being offered by Tracerlab, Inc., Boston, manufacturer of nuclear instruments. Mobile monitoring units, now being produced at the firm's Richmond, Calif. plant, for radiation monitoring in the general area of a nuclear reactor or fuel element fabricating plant, contain their own power supply and continuously monitor the air for detection and recording of radiation. (Other PRODUCT, PROCESS, INSTRUMENT NEWS, p. 3 this LETTER.)

Negotiations are being continued by Sabre-Pinion Uranium with several firms, looking toward exploitation of Sabre-Pinion's uranium ore holdings, estimated at 5-million tons, in the Ambrosia Lake area, New Mexico. (Extensive negotiations had been conducted by the firm with American Metals Co., Ltd., for exploitation of these properties, but no agreement had been reached.) Among firms now interested are United Western Minerals, with Phillips Petroleum also believed to be actively considering developing Sabre-Pinion's properties. (Other FINANCIAL NEWS, p. 4 this LETTER.)

Use of welding, in the nuclear reactor field, will be covered in three papers at the annual Midwest Welding Conference, Chicago, Jan. 30-31. Discussions will be on High Temperature Brazing by P. Patriarca, Oak Ridge National Laboratory; Welded Fabrication of a Homogeneous Reactor Core and Pressure Vessel, by F. V. Daly, Newport News Shipbuilding & Drydock Co.; and Welding of Equipment for Nuclear Plants, by N. Block, Foster-Wheeler Corp.

Option has been taken by National Distillers Products Corp. on an Australian process for extracting zirconium from mineral-bearing beach sands. Process is undergoing tests at labs of the U. S. Industrial Chemicals Co. division of National Distillers, in Cincinnati. Developed by the Australian Commonwealth Scientific and Industrial Research Organization, the process was said by Richard G. Casey, Australia's external affairs minister, to turn out zirconium free of hafnium, and therefore well suited for use in nuclear reactor applications. (Other RAW MATERIALS NEWS, p. 4 this LETTER.)

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ATOMIC ENERGY BUSINESS NEWS...

U. S. CONCERN TO BUILD CANADIAN RESEARCH REACTOR:- AMF Atomics (Canada) Ltd., subsidiary of American Machine & Foundry, New York, will design and build a nuclear reactor of the pool-type at McMaster University, Hamilton, Ontario, Canada, under contract recently awarded the firm. To be used for research, the reactor will be operated by McMaster's Hamilton College, the university's science school. It will be financed jointly by Canadian Government agencies, the Ontario Hydro Electric Power Commission, and several Ontario industries.

JOINT COMPANY FORMED FOR WORK IN ATOMIC FIELD:- Sylvania-Corning Nuclear Corporation is new organization being formed by Sylvania Electric Products, Inc., and Corning Glass Works, for expanded research, development and production of atomic fuel elements. Sylvania-Corning Nuclear will be a Delaware corporation, with Sylvania and Corning each owning one-half of the company's stock. New organization will start by taking over the two companies' atomic energy businesses. Major customer at first will be the USAEC, since the Commission is at present the only large-scale user of atomic fuel elements; the companies believe, however, that it will be only a matter of time before industrial firms with nuclear reactors substantially expand the market. (Sylvania has devoted its efforts toward developing metals and alloys to withstand high reactor temperatures, and still be satisfactory from radiation standpoint; Corning has done research along similar lines but with ceramic coatings instead of metals.) The new plant of Sylvania-Corning Nuclear will be located in the Northeast, and will represent a multimillion-dollar expenditure.

INSURANCE UNDERWRITERS VIEW ATOMIC FIELD:- Liability insurance is the most difficult problem connected with nuclear reactors, C. J. Haugh, vice-president, Travelers Insurance Co., said recently at a luncheon meeting of the Insurance Institute of Montreal. Mr. Haugh mentioned the formation by capital stock insurance companies of the U. S. of a liability insurance syndicate in which it is hoped to develop an ultimate capacity of as much as $50 million. This organization (NELIA) is in addition to the $50 million syndicate which supplies physical damage insurance to the reactor installation itself. There is also an additional facility, with an estimated capacity of $15 million, which has been organized by the mutual insurance companies, he noted.

In Sweden, the Skandia Insurance Co., Ltd., with others, has formed an atomic insurance pool. Skandia states that the Swedish pool is prepared to accept a share of the reinsurances of the U. S. pools.

DIFFICULTIES BEING ENCOUNTERED IN NUCLEAR POWERED SUBMARINE:- Sea trials of the U. S. Navy's Seawolf, second submarine with a nuclear power plant, are being delayed due to mechanical difficulties in the propulsion plant of the undersea craft. (Meanwhile, the prototype of the Seawolf reactor and power plant, which was built by General Electric Co., has been operating at West Milton, N.Y., for over a year with no apparent trouble.)

SITE CHOSEN FOR ARMY IONIZING RADIATION CENTER:- Sharpe General Depot, Stockton, Calif., will be site of U. S. Army's ionizing radiation center to investigate use of ionizing radiation in preserving food, and radiation effects on various materials. Operations of the center will be under direction of Army's quartermaster research and development command, Natick, Mass. USAEC will furnish the reactor; its preliminary design is now being completed by Internuclear Co., Clayton, Mo.; and some eleven industrial firms have made proposals to design, fabricate and construct it.

HEAVY WATER MODERATED REACTORS FOR POWER USE TO BE STUDIED:- Economic and technological feasibility of heavy-water-moderated nuclear reactors for use in commercial power stations will be investigated in a design and development study to be made by Du Pont for the USAEC. Work will be done under the existing contract between Du Pont and the Commission for the operation of the USAEC's Savannah River Plant in S. Carolina. The study will pay particular attention to the use of natural uranium as fuel.

CLAY MASONRY WALLS SHOW BLAST RESISTANCE, EXPERIMENTS REVEAL:- Experiments conducted by Armour Research Foundation, Chicago, for the Structural Clay Products Research Foundation, Geneva, Ill., show that explosion resistance can be built into structural clay masonry walls to withstand severe lateral forces (nuclear blasts, etc.) according to Keith McKee, ARF associate engineer. Technical details showing how this may be accomplished, without excessively increasing cost of construction, may be obtained from the Foundation, of which Robert Taylor is director.

CONTRACTS AWARDED...on nuclear projects...

OIL TANKER NUCLEAR PROPULSION TO BE STUDIED:- Contract to study the feasibility of building a gas-cooled nuclear propulsion system for an oil tanker has been awarded by the USAEC to General Atomic Division of General Dynamics Corp., San Diego. The study of this closed-cycle gas turbine propulsion system for a tanker will include, in addition to the nuclear and engineering aspects, the economy, efficiency and safety aspects of such an operation. Working with General Atomic will be Electric Boat Division of General Dynamics, which has built two nuclear powered undersea craft for the U. S. Navy, and is presently constructing three more such craft.

NUCLEAR REACTOR RESEARCH FACILITY TO BE FURNISHED ITALIAN AGENCY:- Contract for engineering services on a heavy water type nuclear reactor, to be built in Milan, Italy, using enriched uranium as fuel, has been awarded Vitro Engineering Division of Vitro Corp. of America, New York. Contract was awarded by Comitato Nazionale per Le Ricerche Nucleari, the Italian Government atomic energy agency. The reactor, to be used in a research facility, will be the same type as the CP-5 reactor operated by the USAEC's Argonne National Laboratory, Lemont, Ill.

LOW BID MADE BY LOS ANGELES FORM ON SPERT-III:- On a bid of $1,580,000.00, Paul Hardeman, Inc., Los Angeles, was apparent low bidder on contract to construct SPERT-III (special power excursion reactor test) facility at the USAEC's national reactor testing station, Idaho Falls, Idaho. Work under the SPERT-III contract includes construction of a 59- by 80-ft. reactor building; the non-nuclear portions of the reactor system, including process piping, heat exchangers, pumps, coolant system, electrical power system, instrumentation and water storage tanks; and site improvement work. Nine bids were made for this job, next lowest of $1,711,600 being made by Peter Kiewit Sons' Co., Seattle. (SPERT-III facility, together with SPERT-I, now operating at the testing station, is part of a reactor study program to demonstrate, experimentally, safe top operating limits, to discover points of design weakness, and to learn what inherent safety mechanisms contribute most to reactor self-safety so as to capitalize on them.)

URANIUM SALT PRODUCTION CONTRACT TO BE AWARDED:- On the basis of a proposal which was lowest of seven made to the USAEC, General Chemical Division of Allied Chemical & Dye Corp., New York, is to receive contract to furnish the Commission's plants with 5,000 tons per year of highly purified uranium hexafluoride, to be produced from crude uranium concentrates supplied by the USAEC. General Chemical's process is a new one, which permits bypassing the refining step (as now done in USAEC plants), and obtains the necessary purity by distillation of the uranium hexafluoride. (In Oct., 1955, USAEC had asked industrial firms to consider furnishing the Commission with uranium salts; by Oct. 1, 1956, deadline for these proposals, seven U.S. firms had given method and price to the Commission.)

NEW PRODUCTS, APPARATUS...for nuclear purposes...

PRODUCTS:- New labeled steroid, cholesterol 26-C-14 with specific activity of one microcurie per mg., is now available from this producer. Purification is by chromatography and crystallization. --Bęta Laboratories, Inc., Phila. 6, Pa.

PRODUCT SPECIFICATIONS:- Military specification MIL-C-19381 covers special purpose electric cable, for nuclear plant, aboard Naval vessels. This type of cable must pass 24-hours at 500-deg. F., with no visual external derangement, such as end drip, etc.

PRODUCT PRICES:- Guaranteed prices have been set by the USAEC under which it will buy by-product plutonium and uranium-233 produced in nuclear reactors in the U.S. These prices, which hold for the one year period starting July 1, 1962, are $12 per gram for plutonium metal, while for uranium-233 nitrate, the USAEC will pay $15 per gram of contained uranium-233. (Previous guaranteed prices covering 1955-1962 period for these materials were in classified category.)

APPARATUS:- New experimental nuclear reactor, known as "slow-fast" reactor, is now in operation at Argonne National Laboratory, Lemont, Ill. It will be used for various experimental purposes, to assist in design of future power reactors.

A 5,500 curie, cobalt-60 source of gamma radiation has been completed at Nuclear Division, Martin Company, Baltimore. Installed in Martin Gamma Facility, it will be primarily used to test effect of radiation on various materials.

New high-speed computer will be developed by International Business Machines Corp., for Los Alamos Scientific Laboratory, N. M. IBM disclosed that the machine will be 100 to 200 times as fast as any comparable general purpose computer.

ATOMIC ENERGY FINANCIAL NEWS...

NEW EXCHANGE LISTING FOR CANADIAN URANIUM MINING CO.:- American Stock Exchange listing began in the last fortnight for Northspan Uranium Mines, Ltd., previously carried only on the Toronto board. Listing of common and warrants was simultaneous with successful placement in the U.S. of a $45 million issue of 5 3/4% general mortgage bonds (with warrants) through an underwriting syndicate led by Morgan, Stanley & Co., and Model, Roland, & Stone. (Although U.S. investors will get a large portion of the issue, a substantial part of the issue will go out on orders from European banking firms.) Northspan's common was being traded at approximately $4.50 a share, compared with the $3.00 per share price at which the warrants will be exercisable for the next ten years beginning Feb. 1, 1957; each $1,000 mortgage bond carried these warrants entitling holder to buy 50 shares of common. Additional funds for Northspan will be through bank loans of $15 million from Chase Manhattan Bank, and $10 million from Canadian Bank of Commerce; and also a loan of $6 million from Rio Tinto (Canada) Ltd.

HOLDING COMPANY TO ACQUIRE NUCLEAR PATENTS:- Hupp Corp., which recently obtained from the French Atomic Energy Commission exclusive rights in the U.S. and Canada to five basic inventions and patent applications in the nuclear field, has now found that these patents are in dispute in the U. S. agencies concerned. It is possible grants to these patents may not be made, although Hupp officials have expressed confidence that the firm will obtain the exclusive rights it is seeking.

ANALYSES OF FIRMS ACTIVE IN NUCLEAR WORK MADE AVAILABLE:- A memorandum on atomic power in the U. S. Navy has been prepared by Reynolds & Co., 120 Broadway, New York.....A discussion of Gunnar Mines, Ltd., may be obtained from Oppenheimer & Co., 25 Broad St., New York.....Briefs on Anaconda Co., and Babcock & Wilcox have been made by Oppenheimer, Vandem Broeck & Co., 120 Broadway, New York.

INSTRUMENT MANUFACTURER EXPECTS SALES RISE:- Beckman Instruments, Inc., Fullerton, Calif., should have total sales for the year ending June 30, 1957 in the $40 million range, Arnold O. Beckman, president, told his stockholders at the annual meeting last week. Sales for the year ending June 30, 1956 were $29.4 million, for this instrument manufacturer and long time producer of nuclear instrumentation. Dr. Beckman said that a $9 million consolidated loan, representing a new loan of $5.6 million added to existing long-term obligations of $3.4 million, was completed with Metropolitan Life Insurance Co. He also stated that bank credit up to $10 million is available to the firm. Beckman is considering a 100,000-sq. ft addition to its main plant at Fullerton, he noted, but added that nothing definite has been decided upon at present.

NEW BOOKS & OTHER PUBLICATIONS...on nuclear subjects...

Nuclear Energy in Western Europe & U. S. Policy, by Klaus E. Knorr. Western European plans for commercial nuclear power; role of U.S. 35 pages. --Center for International Studies, Princeton University, N.J. (n/c)

Russian-English Dictionary of Nuclear Physics & Engineering, by N. N. Ershov, Y.V. Semenov, A.I. Cherny. Compiled by Academy of Sciences, USSR. 350 pages. -- Associated Technical Services, E. Orange, N.J. ($9.75)

RAW MATERIALS...prospecting, mining, marketing...

UNITED STATES:- Contracts have been given by the USAEC's Grand Junction, Colo., office to Gunnison Mining Co., of Grand Junction, and Lucky Mc Uranium Corp., of Salt Lake City, under which uranium concentrates produced from their proposed mills will be bought at guaranteed prices by the USAEC. Gunnison will erect mill in Gunnison, Colo.; Lucky Mc in Fremont County, approximately 50-miles southeast of Riverton, Wyoming. (Principal stockholder of Lucky Mc is Utah Construction Co.; Gunnison is operated by Vance and Garth Thornburg.)

CANADA:- Stanleigh Uranium Mining Corp. is financing its property to production with an offering of $26 million in first mortgage bonds by Canadian underwriters headed by W. C. Pitfield & Co., Montreal. Stanleigh holds contract under which Eldorado Mining & Refining (Canadian Government purchasing agency) will buy $90 million of its uranium concentrates.

ATOMIC ENERGY PATENT DIGEST...

PATENT GRANTS TO PRIVATE INDIVIDUALS AND/OR ORGANIZATIONS:- Epithermal neutron detecting device. U. S. Pat. No. 2,769,915 issued Nov. 6, 1956; assigned to Gulf Research & Development Co., Pittsburgh, Pa. (Application date: Oct. 2, 1952.) Inventor: C. W. Tittle.)

Slow neutron detector of the coincidence type. U. S. Pat. No. 2,769,916 issued Nov. 6, 1956; assigned to Gulf Research & Development Co., Pittsburgh, Pa. (Application date: Oct. 2, 1952.) (Inventor: C. W. Tittle.)

Electrical circuit for recording differential intensity of two beams of radiation. U. S. Pat. No. 2,769,919 issued Nov. 6, 1956; assigned to Phillips Petroleum Co. (Application date: May 28, 1953.) (Inventor: F. W. Crawford.)

Borehole exploration with radioactivity responsive systems. U. S. Pat. No. 2,769,920 issued Nov. 6, 1956; assigned to Schlumberger Well Surveying Corp., Houston, Texas. (Application date: Feb. 27, 1952.) (Inventor: Shelley Krasnow.)

Method of using gamma radiation source to prevent bacterially-induced corrosion of well casings. U. S. Pat. No. 2,769,921 issued Nov. 6, 1956; assigned to Union Oil Co. of Calif., Los Angeles, Calif. (Application date: July 31, 1952.) (Inventors: P. G. Nahin, E. R. Atkins, Jr.)

Radioactive method for marking borehole formations. U. S. Pat. No. 2,770,736 issued Nov. 13, 1956; assigned to Schlumberger Well Surveying Corp., Houston, Tex. (Application date: Mar. 12, 1952.) (Inventor: Shelley Krasnow.)

PATENT GRANTS TO GOVERNMENTAL ORGANIZATIONS:- Recovering mineral values (uranium, etc.) from leached zone material overlying Florida pebble deposits. U. S. Pat. No. 2,769,686 issued Nov. 6, 1956; assigned to United States of America (USAEC). (Application date: Dec. 8, 1952) (Inventors: R. F. McCullough, I. M. LeBaron.)

Method of making a product containing uranium-237. U. S. Pat. No. 2,769,776 issued Nov. 6, 1956; assigned to United States of America (USAEC). (Application date: Feb. 7, 1946.) (Inventor: A. F. Reid.)

Removing fission products by a precipitation process. U. S. Pat. No. 2,769,780 issued Nov. 6, 1956; assigned to United States of America (USAEC). (Application date: Dec. 22, 1954.) (Inventors: W. E. Clifford, R. E. Burns.)

Single phase electromagnetic pump for pumping liquid metals. U. S. Pat. No. 2,770,196 issued Nov. 13, 1956; assigned to U. K. Atomic Energy Authority, London, Eng. (Application date: Oct. 5, 1953.) (Inventor: D. A. Watt.)

Recovering uranium from a phosphoric acid solution. U. S. Pat. No. 2,770,520 issued Nov. 13, 1956; assigned to United States of America (USAEC). (Application date: Apr. 11, 1950.)

Obtaining uranium peroxide from a uranium-containing sulfate mixture. U. S. Pat. No. 2,770,521 issued Nov. 13, 1956; assigned to United States of America (USAEC). (Application date: Oct. 20, 1944.) (Inventor: Louis Spiegler.)

Reactor coolant circulating system for a nuclear reactor. U. S. Pat. No. 2,770,590 issued Nov. 13, 1956; assigned to United States of America (USAEC). (Application date: May 17, 1950.) (Inventor: J. T. Serduke.)

Heavy water moderated nuclear reactor. U. S. Pat. No. 2,770,591 issued Nov. 13, 1956; assigned to United States of America (USAEC). (Application date: July 3, 1946.) (Inventors: E. P. Wigner, L. A. Ohlinger, G. J. Young, A. M. Weinberg.)

PEOPLE...in atomic energy work...

Harry D. Bruner has been appointed chief of the medical branch of the USAEC's division of biology and medicine, working out of Washington, D.C.

Hugh F. Beeghly has been made research associate for Jones & Laughlin Steel Corp., Pittsburgh, with responsibility for applying developments in the nuclear energy field to the processes of this steel corporation.

Ray J. Van Thyne has been named supervisor of reactor metallurgy at Armour Research Foundation, Illinois Institute of Technology, Chicago, and will supervise a program on fuel elements, roll bonding, specialized corrosion problems, and development of high temperature alloys, in the nuclear energy field.

Sincerely,

The Staff,
ATOMIC ENERGY NEWSLETTER

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